

Abstract of the Disclosure

A highly efficient semiconductor optoelectronic device is provided. The semiconductor optoelectronic device includes an active layer, an upper waveguide layer provided on the active layer and a lower waveguide layer provided under the active layer, an upper cladding layer provided on the upper waveguide layer and a lower cladding layer provided under the lower waveguide layer, a substrate supporting a deposited structure of the lower cladding layer, the lower waveguide layer, the active layer, the upper waveguide layer, and the upper cladding layer, and upper and lower optical confinement layers provided between the active layer and the upper waveguide layer and between the active layer and the lower waveguide layer, respectively, and having an energy gap that is smaller than those of the upper and lower waveguide layers but greater than that of the active layer.

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